

# A systematic study on the ant subgenus *Cyrtomyrma* Forel of the genus *Polyrhachis* Smith of China

(Hymenoptera: Formicidae)

XU Zheng-Hui

(Faculty of Resources, Southwest Forestry College, Kunming 650224, China)

**Abstract:** Five new species of the ant subgenus *Cyrtomyrma* Forel of the genus *Polyrhachis* Smith are described from the tropical rain forest area of Xishuangbanna Nature Reserve in southern Yunnan Province, i. e., *P. (C.) cornihumera* sp. nov., *P. (C.) dentihumera* sp. nov., *P. (C.) orbihumera* sp. nov., *P. (C.) rotoccipita* sp. nov., and *P. (C.) brevicorpa* sp. nov. At present, 13 species of the subgenus have been recorded in China and the Indo-China Peninsula, among these 9 species are known only from China. A key based on worker caste is provided for the 13 species recorded in China and the Indo-China Peninsula.

**Key words:** Hymenoptera; Formicidae; *Polyrhachis* (*Cyrtomyrma*); systematics; China

*Cyrtomyrma* was established as a subgenus of the genus *Polyrhachis* Smith by Forel in 1915 based on the type-species *Formica rastellata* Latreille. This is a particular subgenus which has a strongly hunchbacked dorsum on its alitrunk. Both Hung (1967) and Dorow (1995) had revised the taxonomy of the genus *Polyrhachis* at the subgeneric level and *Cyrtomyrma* was treated by both authors as a separate subgenus. Twenty-nine species of the subgenus have been described worldwide (Bolton, 1995). According to the type-species localities, New Guinea and Australia are the distribution center of the subgenus which spreads northwest to the Malay and Indo-Chinese Peninsulas, and even to East Asia.

The only useful revision work of the subgenus was that by Donisthorpe (1938). He treated 25 species which he divided into 2 groups: “shoulders toothed or angled” and “shoulders rounded”. However, we noticed that, according to Donisthorpe’s own figures, at least 2 of the species in Donisthorpe’s second group, *P. (C.) burmanensis* and *P. (C.) mackayi*, have angled shoulders. Moreover, it is difficult to distinguish the 8 species of the

“epinotum unarmed” subgroup from the rest of the “shoulders rounded” group.

Six species of this subgenus have been recorded in the Indo-China Peninsula: *P. (C.) laevissima* Smith (1858) and *P. (C.) burmanensis* Donisthorpe (1938) from Burma, *P. (C.) demangei* Santschi (1910) from Vietnam, *P. (C.) jurii* Karavaiev (1935) from Cambodia, *P. (C.) vitalisi* Santschi (1920) from Laos, and *P. (C.) rastellata* (Latreille, 1802) from India, Sri Lanka, Burma and Thailand (Bingham, 1903). Wheeler (1930) firstly reported 2 species of *Cyrtomyrma* in China: *P. (C.) demangei* Santschi from Guangdong, *P. (C.) debilis* Emery from Guangdong and Hainan Provinces. Later, Wang *et al.* (1991) reported *P. (C.) rastellata* and *P. (C.) debilis* Emery on the Chinese mainland. Chou *et al.* (1991) reported *P. (C.) rastellata* in Taiwan Province. Wu *et al.* (1995) reported 2 species of the subgenus, *P. (C.) rastellata* and *P. (C.) debilis* Emery, on the Chinese mainland. Tang *et al.* (1995) also reported *P. (C.) rastellata* on mainland China, but their identification seems wrong because

基金项目 Foundation item: The National Natural Science Foundation of China (39500118) and the Applied and Basic Research Foundation of Yunnan Province (95C067Q)

作者简介: 徐正会, 男, 1962年7月生, 云南安宁人, 理学博士, 森林保护学教授, 北京林业大学博士生导师, 主要从事松叶蜂和蚂蚁研究, E-mail: zhxu@public.km.yn.cn

收稿日期 Received: 2000-06-13; 接受日期 Accepted: 2001-04-30

the accompanying figure has a pair of small denticles on the propodeum. Recently, Xu (1998) described a new species, *P. (C.) cyphonota*, from Yunnan Province. In this study, 5 new species of this subgenus are described from the tropical area of southern Yunnan Province. Up to date, 9 species of *Cyrtomyrma* have been recorded in China.

Standard measurements (in mm) and indices are as defined in Bolton (1973): TL = Total length, HL = Head length, HW = Head width, CI = Cephalic index, SL = Scape length, SI = Scape index, PW = Pronotal width, AL = Alitrunk length, ED = Maximum diameter of eye, MTL = Metathoracic tibial length. The type specimens are deposited in the Insect Collections, Faculty of Resources, Southwest Forestry College, Kunming, Yunnan Province, China.

### *Polyrhachis (Cyrtomyrma) Forel*

*Polyrhachis (Cyrtomyrma)* Forel, 1915, *Arkiv Zool.* 9: 107.

Type-species: *Formica rastellata* Latreille, by original designation

**Diagnosis of worker:** Head rounded at the sides and generally broader than thorax. The thorax strongly hunch-backed and usually broadest in front, narrowing to the base, and without a trace of side margins. Anterolateral angles of pronotum either toothed, angled, or rounded. Propodeum short and without a distinct declivity, either armed with a pair of teeth or entirely unarmed. Petiolar node furnished with four or two teeth or spines. The color of the body usually black, legs either black or partly red. Body surface either smooth and shiny or densely punctured and dull.

### Key to species of *Polyrhachis (Cyrtomyrma)* of China

#### and Indo-China Peninsula based on worker caste

- Shoulders of pronotum form a pair of acute or right angles ... 2  
Shoulders of pronotum roundly prominent or rounded ... 6
- Propodeum with a pair of small denticles. Petiolar node with only a pair of long lateral spines (Figs. 1–4) (China: Yunnan)  
..... *P. (C.) corniflumera* sp. nov.  
Propodeum unarmed ... 3
- Shoulders of pronotum form a pair of acute angles. Petiolar node with only a pair of laterodorsally pointed short lateral spines (Figs. 5–8) (China: Yunnan)  
..... *P. (C.) dentiflumera* sp. nov.  
Shoulders of pronotum form a pair of right angles ... 4

- Petiolar node with a pair of laterally pointed elongate lateral teeth, median teeth very blunt and indistinct (Figs. 9–10) (Cambodia) ..... *P. (C.) juri* Karavaiev  
Petiolar node with a pair of subtriangular short lateral teeth, median teeth minute but distinct ..... 5
- Body surface smooth and shiny. Legs red. TL 5.3 mm (Fig. 11) (Burma; India; Bangladesh; Thailand; Indonesia)  
..... *P. (C.) laevissima* Smith  
Body surface punctured and dull. Legs black. TL 6.5–7.0 mm (Laos)  
..... *P. (C.) vitalisi* Santschi
- Propodeum armed with a pair of small denticles ..... 7  
Propodeum unarmed ..... 9
- Median teeth of petiolar node with a combined elongate base (Fig. 12) (China: Guangdong; Vietnam)  
..... *P. (C.) demangei* Santschi  
Median teeth of petiolar node without a combined elongate base ..... 8
- Propodeal teeth short and minute. Legs red. TL 4.7~5.5 mm (Figs. 13–16) (China: Yunnan)  
..... *P. (C.) cyphonota* Xu  
Propodeal teeth elongate and slender. Legs blackish brown. TL 5.8~7.3 mm (Figs. 17–19) (China: Guangdong, Guangxi and Hainan; New Guinea)  
..... *P. (C.) debilis* Emery
- Shoulders of pronotum roundly prominent. Legs blackish brown. TL 4.4 mm (Fig. 20) (Burma)  
..... *P. (C.) burmanensis* Donisthorpe  
Shoulders of pronotum rounded. Legs red or black. TL 4.8–6.2 mm ..... 10
- Legs red ..... 11  
Legs black ..... 12
- Body surface smooth and shiny. Femora and tibiae blood-red. Petiolar node with 4 subequal teeth (Figs. 21–25) (China: Yunnan, Guizhou, Hubei, Hunan, Zhejiang, Jiangxi, Fujian, Taiwan and Hainan; Burma; Thailand; India; Sri Lanka; Indonesia; New Guinea; Australia)  
..... *P. (C.) rastellata* (Latreille)  
Body surface densely, superficially and finely punctured, less shiny. Petiolar node with median teeth distinctly longer than lateral ones. Femora brownish red, tibiae blackish brown (Figs. 26–29) (China: Yunnan)  
..... *P. (C.) orbiflumera* sp. nov.
- Body surface smooth and shiny, with blackish-blue metallic luster (Figs. 30–33) (China: Yunnan)  
..... *P. (C.) rotocapitata* sp. nov.  
Body surface densely and finely punctured, dull, without metallic luster (Figs. 34–37) (China: Yunnan)  
..... *P. (C.) brevicorpa* sp. nov.
- 1 *Polyrhachis (Cyrtomyrma) corniflumera* sp. nov.**  
(Figs. 1~4)

Holotype worker: TL 5.9, HL 1.80, HW 1.85, CI 103, SL 1.85, SI 100, PW 1.40, AL 2.00, ED 0.45, MTL 2.45. Head slightly broader than long, roughly triangular, narrowed forward. Occipital margin weakly convex, occipital corners rounded. Lateral sides of head evenly convex. Mandible with 5 teeth. Clypeus evenly convex, without longitudinal central carina, anterior margin with a pair of small denticles and weakly emarginate between the denticles. Antennae long, scape surpassing occipital corner by about 1/2 of its length. Eyes convex, close to occipital corners. In profile view, dorsum of alitrunk strongly convex, promesonotal suture distinct, metanotal groove absent. Propodeum with a pair of small teeth, dorsum and declivity relatively straight. In dorsal view, shoulders of pronotum form a pair of right angles. In front view petiolar node with a pair of long slender lateral spines, laterodorsally pointed and slightly curved inward, without median teeth, dorsal margin of the node straight. In profile view, petiolar node nearly triangular, lateral spines bent backward. Mandibles sparsely and finely punctured. Head, alitrunk and petiole densely and finely punctured, relatively dull. Gaster with weak micro-reticulation, less shiny. The whole body with abundant depressed short pubescence. Anterior part of head with sparse suberect hairs, apex of gaster with abundant suberect hairs. Occiput, alitrunk and dorsum of first gastral segment without hairs. Scapes with dense depressed short pubescence, without hairs. Femora and tibiae with abundant depressed pubescence, without hairs. Body black, with blue metallic luster, eyes blackish brown, legs black. Hairs grayish white.

Paratype workers: TL 5.9 – 6.1, HL 1.75 – 1.85, HW 1.85 – 1.95, CI 105 ~ 106, SL 1.85 – 1.90, SI 97 – 100, PW 1.40 – 1.55, AL 1.85 – 2.10, ED 0.45 – 0.50, MTL 2.35 – 2.55 (2 measured). As holotype.

Holotype: worker, No. A97-112, 1100 m, Sanchahe River, Mengyang Town, Jinghong County, Yunnan Province, III. 1. 1997, collected by Miss DAI Se-Ping in mountain rain forest. Paratypes: 1 worker, No. A97-1005, 880 m, Sanchahe River, Mengyang Town, Jinghong County, Yunnan Province, 1997-VII-8, collected by Dr. XU Zheng-Hui in bamboo forest; 1 worker, with same data as No. A97-1005, but No. A98-136, III. 6. 1998, with gaster lost.

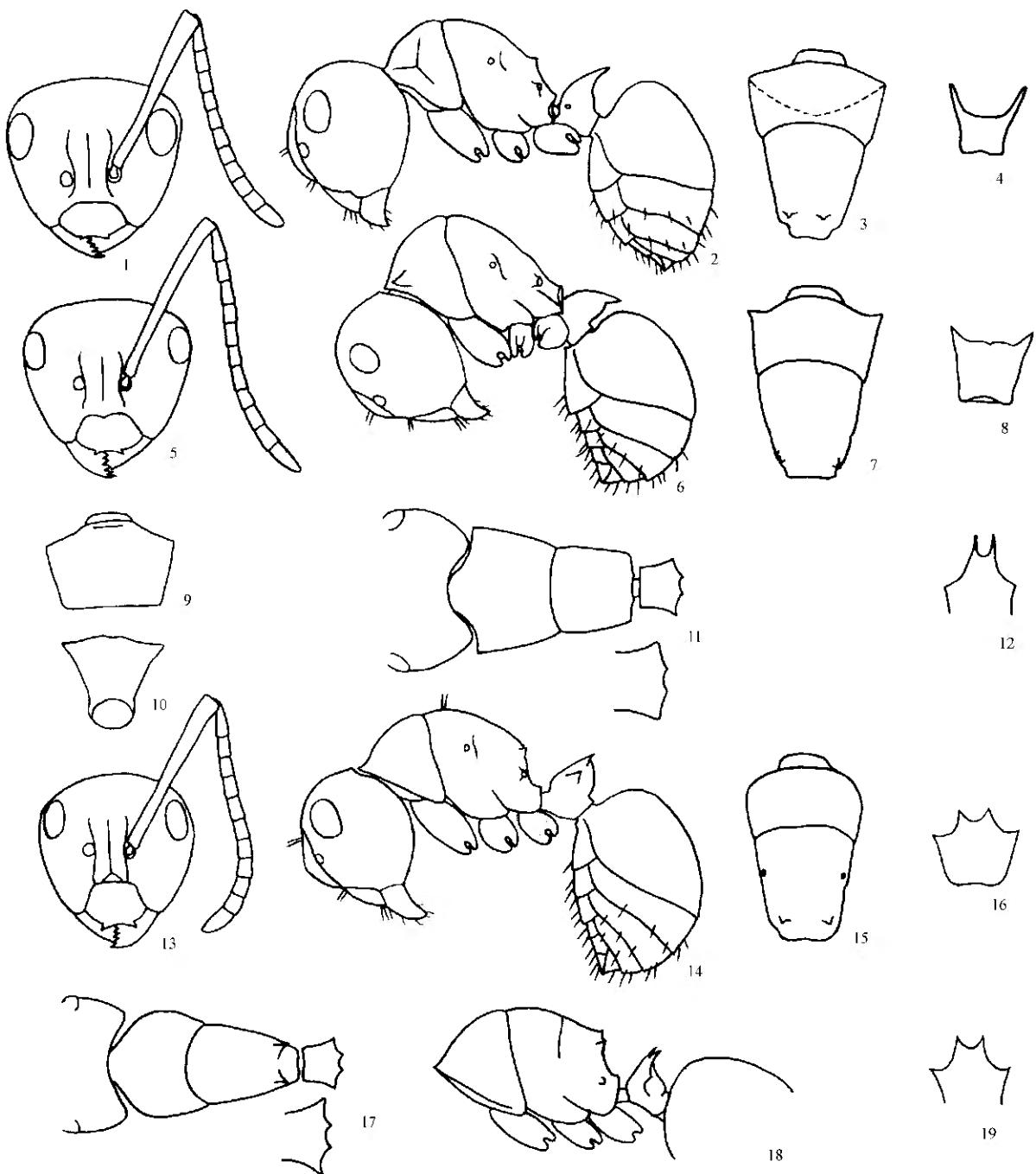
This new species is close to *P. (C.) levior* Roger,

but shoulders of pronotum formed a pair of right angles; propodeum with minute teeth; Petiolar node with a pair of long slender lateral spines, without median teeth; body surface densely and finely punctured, relatively dull; legs black.

## 2 *Polyrhachis (Cyrtomyrma) dentithumera* sp. nov. (Figs. 5 – 8)

Holotype worker: TL 5.2, HL 1.55, HW 1.65, CI 106, SL 1.80, SI 109, PW 1.20, AL 1.80, ED 0.40, MTL 2.35. Head slightly broader than long, roughly triangular. Occipital margin weakly convex, occipital corner rounded. Lateral sides evenly convex. Mandible with 5 teeth. Clypeus weakly convex, without longitudinal central carina, anterior margin with a pair of small denticles and weakly emarginate between the denticles. Antennae long, scape surpassing occipital corner by about 3/5 of its length. Eyes close to occipital corners. In profile view, dorsum of alitrunk strongly convex, promesonotal suture distinct, metanotal groove absent. Propodeum unarmed, dorsum and declivity formed a single slope surface. In dorsal view, shoulders of pronotum form a pair of acute teeth. In front view, petiolar node with a pair of short lateral spines, laterodorsally pointed and slightly bent upward, without median teeth, dorsal margin nearly straight, with a notch in the center. In profile view, petiolar node triangular, lateral spines bent backward. Mandibles finely and longitudinally striate, relatively dull. Head, alitrunk, petiole and gaster uniformly, densely and finely punctured, dull. Scapes and legs superficially, densely and finely punctured, less shiny. The whole body with abundant depressed short pubescence. Clypeus and vertex with sparse suberect hairs, ventral surface and apex of gaster with abundant suberect hairs, occiput, dorsum of alitrunk, petiole and dorsum of first gastral segment without hairs. Scapes, femora and tibiae with sparse depressed pubescence, without hairs. The whole body black, eyes brown, legs black, hairs white.

Paratype workers: TL 5.0 – 6.2, HL 1.50 – 1.80, HW 1.65 – 2.15, CI 110 – 119, SL 1.70 – 2.15, SI 100 – 105, PW 1.20 – 1.45, AL 1.70 – 2.30, ED 0.40 – 0.50, MTL 2.30 – 2.85 (5 measured). As holotype, but in some individuals occiput and mesonotum with a pair of erect hairs separately.



Figs. 1 ~ 19 *Polyrhachis (Cyrtomyrma)* workers

图 1~19 多刺蚁属（驼背亚属）工蚁

1~4. *P. (C.) cornifumera* sp. nov. (方肩多刺蚁, 新种); 5~8. *P. (C.) dentifumera* sp. nov. (齿肩多刺蚁, 新种); 9~10. *P. (C.) jurii* Karavaiev (久瑞多刺蚁); 11. *P. (C.) laevissima* Smith (光滑多刺蚁); 12. *P. (C.) demangei* Santschi (代芒多刺蚁); 13~16. *P. (C.) cyphonota* Xu (驼背多刺蚁); 17~19. *P. (C.) debilis* Emery (德比利多刺蚁); 1, 5, 13. Head in full-face view (头部正面观); 2, 6, 14, 18. Body in profile view (整体侧面观); 3, 7, 15. Alitrunk in dorsal view (胸部背面观); 4, 8, 10, 12, 16, 19. Petiole in front view (腹柄前面观); 9. Pronotum in dorsal view (前胸背板背面观); 11, 17. Head, alitrunk and petiole in dorsal view (头部、胸部和腹柄背面观); 9~10. After Karavaiev (1935); 11, 17. After Donisthorpe (1938); 12. After Santschi (1910); 13~16. After Xu (1998); 18~19. After Wu *et al.* (1995)

Paratype dealate female: TL 8.4, HL 2.15, HW 2.50, CI 116, SL 2.60, SI 104, PW 2.05, AL 3.10, ED 0.60, MTL 3.50 (1 measured). As holotype, but with body larger, head with 3 ocelli, shoulders of pronotum rounded, petiolar node with short tooth-like lateral spines.

Holotype: worker, No. A97-3140, 790m, Bubang Village, Mengla County, Yunnan Province, XII. 13. 1997, collected by Mr. HU Gang in seasonal rain forest. Paratypes: 3 workers, with same data as holotype; 1 worker, No. A97-176, 1 100 m, Longlin Village, Mengla County, Yunnan Province, III. 5. 1997, collected by Mr. LAI Yu-Chu in mountain rain forest; 2 workers, No. A97-3106, 1 060 m, Longmen Village, Mengla county, Yunnan Province, XII. 11. 1997, collected by Mr. YANG Bi-Lun in mountain rain forest; 2 workers, with same data as No. A97-3106 but No. A97-3111; 1 dealate female, with same data as No. A97-3106, but No. A97-3165.

This new species is close to *P. (C.) gibba* Emery, but body surface densely punctured and dull, without metallic luster; shoulders of pronotum more protruding and formed a pair of acute teeth; petiolar node with lateral spines more stouter and straighter.

### 3 *Polyrhachis (Cyrtomyrma) orbihumera* sp. nov. (Figs. 26–29)

Holotype worker: TL 5.1, HL 1.50, HW 1.50, CI 100, SL 1.75, SI 117, PW 1.15, AL 1.80, ED 0.45, MTL 2.00. Head about as broad as long, roughly triangular. Occipital margin roundly convex, occipital corners rounded. Lateral sides weakly convex. Mandibles with 5 teeth. Clypeus weakly convex, without longitudinal central carina, anterior margin with a pair of small denticles and weakly emarginate between the denticles. Antennae long, scape surpassing the occipital corner by about 3/5 of its length. Eyes placed at the occipital corners. In profile view, dorsum of alitrunk strongly convex, promesonotal suture distinct, metanotal groove absent. Propodeum unarmed, dorsum and declivity weakly depressed and separated by a blunt convex. In dorsal view, shoulders of pro-

notum rounded. In front view, petiolar node with lateral teeth short and rightly angled, median teeth elongate and acute, distinctly longer than the lateral ones. In profile view petiolar node triangular, median teeth slightly bent backward. Mandibles densely and finely striate and sparsely punctured, relatively dull. Head, alitrunk and petiole uniformly, densely and superficially punctured, less shiny, gaster with similar punctures but weaker and shiny. The whole body with sparse depressed short pubescence. Anterior part of head with sparse erect hairs, mesonotum with a pair of erect hairs, ventral face and apex of gaster with abundant suberect hairs. Occiput, pronotum, propodeum, petiole and dorsum of first gastral segment without erect hairs. Scapes, femora and tibiae with abundant depressed short pubescence, without erect hairs. Body black, femora and tarsi brownish red, tibiae blackish brown. Hairs light yellow.

Paratype workers: TL 4.8–5.8, HL 1.40–1.70, HW 1.40–1.75, CI 100–103, SL 1.65–1.95, SI 111–120, PW 1.00–1.35, AL 1.75–2.15, ED 0.45–0.50, MTL 1.95–2.35 (5 measured). As holotype, but in some individuals with tibiae black, or mesonotum without erect hairs.

Paratype dealate female: TL 6.3, HL 1.70, HW 1.75, CI 103, SL 2.00, SI 114, PW 1.65, AL 2.60, ED 0.50, MTL 2.55 (1 measured). As holotype, but with body larger, head with 3 ocelli, petiolar node with shorter median teeth, about as long as lateral ones.

Holotype: worker, No. A98-59, 1 270 m, Songsanling, Puwen Town, Jinghong County, Yunnan Province, III. 4. 1998, collected by Mr. HE Yun-Feng in warm pine forest. Paratypes: 28 workers, with same data as holotype; 1 dealate female, with same data as holotype but No. A98-51.

This new species is close to *P. (C.) rastellata* (Latreille) (Figs. 21–25), but body surface densely, finely and superficially punctured, not smooth and less shiny; petiolar node with median teeth elongate and distinctly longer than lateral ones; tibiae blackish brown or black.

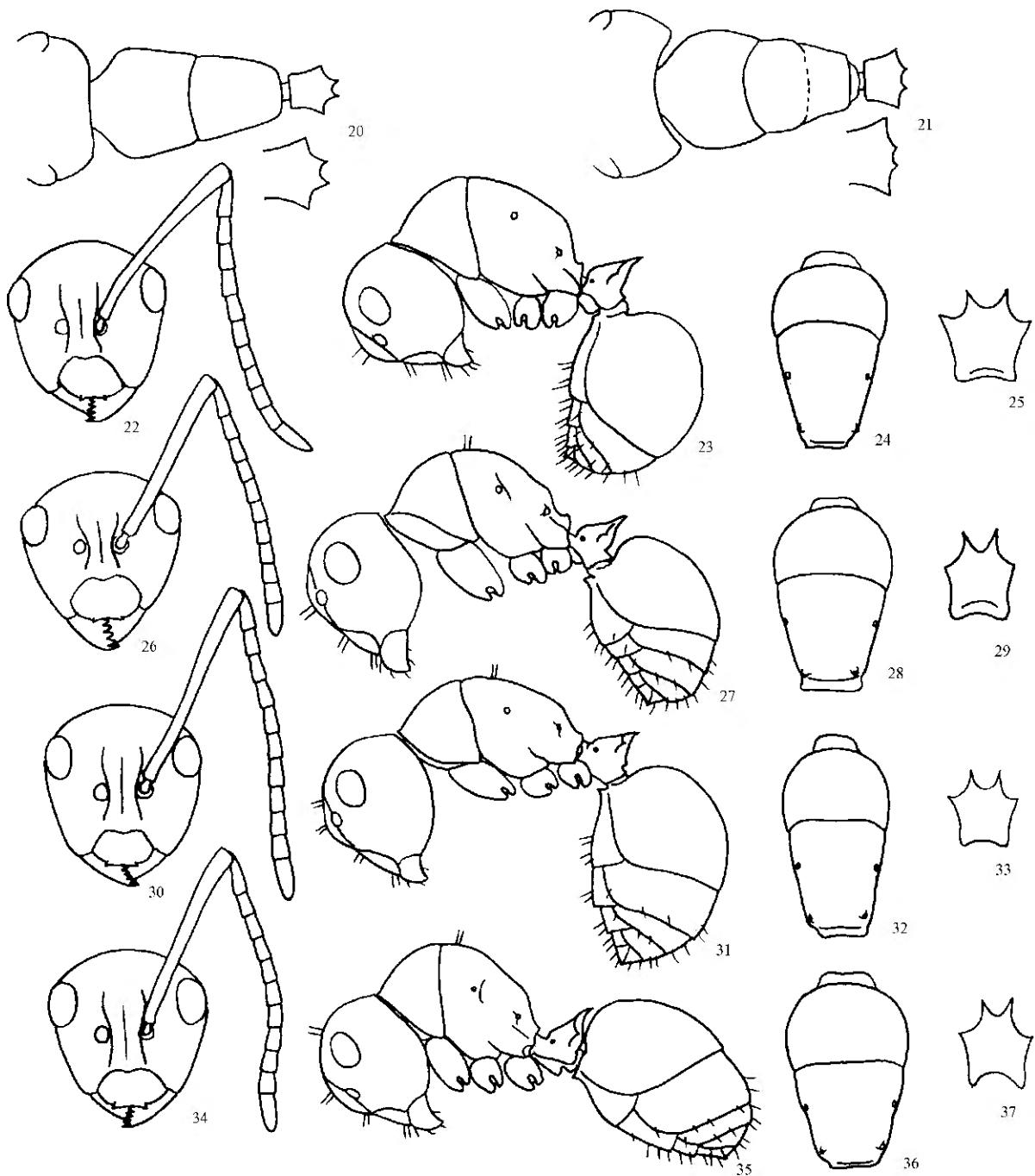
Figs. 20~37 *Polyrhachis* (*Cyrtomyrma*) workers

图 20~37 多刺蚁属 (驼背亚属) 工蚁

20. *P. (C.) burmanensis* Donisthorpe (缅甸多刺蚁); 21~25. *P. (C.) rastellata* (Latreille) (结多刺蚁); 26~29. *P. (C.) orbicularis* sp. nov. (圆肩多刺蚁, 新种); 30~33. *P. (C.) rotocippita* sp. nov. (圆顶多刺蚁, 新种); 34~37. *P. (C.) brevicarpa* sp. nov. (短胸多刺蚁, 新种); 20, 21. Head, alitrunk and petiole in dorsal view (头部、胸部和腹柄背面观); 22, 26, 30, 34. Head in full-face view (头部正面观); 23, 27, 31, 35. Body in profile view (整体侧面观); 24, 28, 32, 36. Alitrunk in dorsal view (胸部背面观); 25, 29, 33, 37. Petiole in front view (腹柄前面观); 20, 21. After Donisthorpe (1938)

**4 *Polyrhachis* (*Cyrtomyrma*) *rotoccipita* sp. nov.  
(Figs. 30–33)**

Holotype worker: TL 5.3, HL 1.40, HW 1.35, CI 96, SL 1.85, SI 137, PW 1.05, AL 1.75, ED 0.40, MTL 2.25. Head slightly longer than broad, roughly triangular. Occipital margin roundly convex, occipital corners rounded. Lateral sides evenly convex. Mandibles with 5 teeth. Clypeus evenly convex, without longitudinal central carina, anterior margin with a pair of small denticles and straight between the denticles. Antennae long, scape surpassing occipital corner by about 2/3 of its length. Eyes placed at occipital corners. In profile view, dorsum of alitrunk strongly convex, promesonotal suture distinct, metanotal groove absent. Propodeum unarmed, dorsum and declivity separated by a roundly blunt convex. In dorsal view, shoulders of pronotum rounded. In front view, lateral teeth of petiolar node short and acute, median teeth elongate and slender, spine-like and longer than lateral ones. In profile view, petiolar node triangular, with median teeth bent backward. Mandibles finely punctured, relatively dull. Head, alitrunk, petiole and gaster with weak micro-reticulation, relatively shiny. The whole body with abundant depressed short pubescence. Anterior portion of head, ventral face and apex of gaster with sparses suberect hairs, mesonotum with a pair of erect hairs. Occiput, pronotum, propodeum, petiole and dorsum of first gastral segment without erect hairs. Scapes, femora and tibiae without erect hairs. The whole body black, with blackish blue metallic luster, eyes yellowish brown, legs black. Hairs grayish white.

Paratype workers: TL 5.2–5.6, HL 1.40–1.65, HW 1.35–1.55, CI 93–97, SL 1.85–2.15, SI 135–146, PW 1.05–1.30, AL 1.75–2.10, ED 0.40–0.45, MTL 2.25–2.60 (5 measured). As holotype, but in some individuals mesonotum without erect hairs.

Holotype: worker, No. A97-2836, 830 m, Shuiushan Mountain, Menglun Town, Mengla County, Yunnan Province, IX. 16. 1997, collected by Dr. XU Zheng-Hui in karst monsoon forest. Paratypes: 3 workers, with same data as holotype; 5 workers, No. A97-3140, 790 m, Bubang Village, Mengla County, Yunnan Province, XII. 13. 1997, collected by Mr. HU Gang in seasonal rain forest; 1 worker, No. A97-1641, 900 m, Manzhuang Village, Mengla County, Yunnan Province,

VIII. 14. 1997, collected by Mr. HE Yun-Feng in semi-evergreen monsoon forest; 3 workers, with same data as No. A97-1641, but No. A97-1628; 2 workers, No. A96-728, 750 m, Huihancun Village, Mengla County, Yunnan Province, III. 10. 1996, collected by Miss CHEN Zhi-Ping in seasonal rain forest.

This new species is close to *P. (C.) rastellata* (Latrelle) (Figs. 21–25), but has black legs; petiolar node with median teeth longer than lateral ones.

**5 *Polyrhachis* (*Cyrtomyrma*) *brevicorpa* sp. nov.  
(Figs. 34–37)**

Holotype worker: TL 5.0, HL 1.50, HW 1.45, CI 97, SL 1.85, SI 129, PW 1.10, AL 1.80, ED 0.40, MTL 2.25. Head about as broad as long, roughly triangular. Occipital margin roundly convex, occipital corners rounded. Lateral sides weakly convex. Mandibles with 5 teeth. Clypeus evenly convex, without longitudinal central carina, anterior margin with a pair of small denticles and straight between the denticles. Antennae long, scape surpassing occipital corner by about 2/3 of its length. Eyes convex, placed at occipital corners. In profile view, dorsum of alitrunk strongly convex, promesonotal suture distinct, metanotal groove absent. Propodeum unarmed, dorsum and declivity straight and separated by a blunt convex. In dorsal view, shoulders of pronotum rounded. In front view, petiolar node with a pair of short acute lateral teeth, median teeth elongate and slender, longer than the lateral ones. In profile view, petiolar node triangular, median teeth bent backward. Mandibles with dense micro-punctures, less shiny. Head, alitrunk, petiole and gaster uniformly, densely and finely punctured, dull. The whole body with abundant depressed short pubescence. Dorsum of head with sparse erect hairs, mesonotum with a pair of erect hairs, apex of gaster with abundant suberect hairs. Occiput, pronotum, propodeum, petiole and dorsum of first gastral segment without hairs. Scapes with dense depressed pubescence, femora and tibiae with abundant depressed pubescence, both scapes, femora and tibiae without erect hairs. The whole body black, eyes yellowish brown, legs black, hairs grayish white.

Paratype workers: TL 5.3–5.8, HL 1.55–1.70, HW 1.50–1.65, CI 97, SL 1.80–1.85, SI 120–127, PW 1.15–1.35, AL 1.85–2.10, ED 0.45–

0.50, MTL 2.20 – 2.65 (4 measured). As holotype.

Holotype: worker, No. A97-977, 1 120 m, Guanping Village, Dadugang Town, Jinghong County, Yunnan Province, VII. 7. 1997, collected by Dr XU Zheng-Hui in mountain rain forest. Paratypes: 1 worker, No. A97-561, 960 m, Sanchahe River, Mengyang Town, Jinghong County, Yunnan Province, III. 1. 1997, collected by Dr XU Zheng-Hui in mountain rain forest; 1 worker, No. A97-3163, 1 060 m, Longmen Village, Mengla County, Yunnan Province, XII. 11. 1997, collected by Mr. YANG Bi-Lun in mountain rain forest; 1 worker, No. A98-915, 1 410 m, Nangongshan Mountain, Mengla County, Yunnan Province, III. 15. 1998, collected by Mr. LIU Tai-Yong in monsoon evergreen broad-leaf forest; 1 worker, No. A98-283, 1 600 m, Papo Village, Meng'a Town, Menghai County, Yunnan Province, III. 8. 1998, collected by Mr. HE Yun-Feng in deciduous broad-leaf forest.

This new species is close to *P. (C.) rastellata* (Latrelle) (Figs. 21 – 25), but body densely and finely punctured and dull; petiolar node with median teeth distinctly longer than lateral ones; legs black.

**Acknowledgements** I would like to thank Mr. YANG Bi-Lun and Mr. HU Gang (Faculty of Resources, Southwest Forestry College, Kunming), Miss CHEN Zhi-Ping, Miss DAI Se-Ping, Mr. LAI Yu-Chu, Mr. HE Yun-Feng and Mr. LIU Ti-Yong (Students of Forest Protection Class, Southwest Forestry College, Kunming) for collecting the type-specimens.

## References

Bolton B, 1973. The ant genus *Polyrhachis* F. Smith in the Ethiopian region (Hymenoptera: Formicidae). *Bull. Br. Mus. Nat. Hist. (Ent.)*, 28 (5): 283 – 369.

Bolton B, 1995. A New General Catalogue of the Ants of the World. Cambridge: Harvard University Press. 1 – 504.

Bingham C T, 1903. The Fauna of British India, Including Ceylon and Burma. Hymenoptera 2. Ants and Cuckoo-wasps. London: Taylor and Francis. 1 – 506.

Chou L Y, Terayama M, 1991. Name list of insects in Taiwan. Hymenoptera: Apocrita: Formicidae. *Chinese J. Entomol.*, 1991, 11 (1): 75 – 84. [周梁鑑, 寺山守, 1991. 台湾昆虫名录——膜翅目: 蚁科. 中华昆虫, 11 (1): 75 – 84]

Donisthorpe H, 1938. The subgenus *Cyrtomyrma* Forel of *Polyrhachis* Smith, with descriptions of new species, etc. *Ann. Mag. Nat. Hist.*, (11) 1: 246 – 267.

Dorrow W, 1995. Revision of the ant genus *Polyrhachis* Smith, 1857 (Hymenoptera: Formicidae: Formicinae) on subgenus level with keys, checklist of species and bibliography. *Courier Forsch. Senck.*, 185: 1 – 113.

Hung A C F, 1967. A revision of the ant genus *Polyrhachis* at the subgeneric level (Hymenoptera: Formicidae). *Trans. Amer. Ent. Soc.*, 93: 395 – 422.

Karavaiev W, 1935. Neue Ameisen aus dem Indo-Australischen Gebiet, nebst Revision einiger Formen. *Treubia*, 15: 57 – 117.

Santschi F, 1910. Deux nouvelles fourmis du Tonkin. *Le Naturaliste*, 32: 283 – 284.

Santschi F, 1920. Quelques nouveaux Camponotinae d' Indo-Chine et Australie. *Bull. Soc. Vaud. Sc. Nat.*, 52: 565 – 569.

Tang J, Li S, Huang E Y et al., 1995. Economic Insect Fauna of China. Fasc. 47. Hymenoptera: Formicidae (1). Beijing: Science Press. 1 – 134. [唐觉, 李参, 黄恩友等, 1995. 中国经济昆虫志, 第47册, 膜翅目蚁科 (一). 北京: 科学出版社. 1 – 134]

Wang C L, Wu J, 1991. Taxonomic studies on the genus *Polyrhachis* Mayr of China (Hymenoptera: Formicidae). *For. Res.*, 4 (6): 596 – 601. [王常禄, 吴坚, 1991. 中国多刺蚁属 (膜翅目: 蚁科) 昆虫研究. 林业科学研究, 4 (6): 596 – 601]

Wheeler W M, 1930 – 1931. A list of the known Chinese ants. *Peking Nat. Hist. Bull.*, 5 (1): 53 – 81.

Wu J, Wang C L, 1995. The Ants of China. Beijing: China Forestry Publishing House. 1 – 214. [吴坚, 王常禄, 1995. 中国蚂蚁. 北京: 中国林业出版社. 1 – 214].

Xu Z H, 1998. Two new species of the ant genus *Polyrhachis* Smith from Yunnan, China (Hymenoptera: Formicidae). *Zool. Res.*, 19 (3): 242 – 246. [徐正会, 1998. 云南多刺蚁属二新种记述 (膜翅目: 蚁科). 动物学研究, 19 (3): 242 – 246]

# 中国多刺蚁属驼背亚属系统分类研究 (膜翅目: 蚁科)

徐正会

(西南林学院资源学院, 昆明 650224)

**摘要:** 记述了在云南省南部西双版纳自然保护区热带雨林区域采集到的多刺蚁属 *Polyrhachis* Smith 驼背亚属 *Cyrtomyrma* Forel 5 新种: 方肩多刺蚁 *P. (C.) cornihumera* sp. nov., 齿肩多刺蚁 *P. (C.) dentihumera* sp. nov., 圆肩多刺蚁 *P. (C.) orbihumera* sp. nov., 圆顶多刺蚁 *P. (C.) rotoccipita* sp. nov., 短胸多刺蚁 *P. (C.) brevicorpa* sp. nov.。目前为止在中国和中南半岛记载该亚属 13 种, 其中中国已知 9 种。提供了中国和中南半岛已知 13 种的检索表。

**关键词:** 膜翅目; 蚁科; 多刺蚁属驼背亚属; 系统分类; 中国

中图分类号: Q969.554.2 文献标识码: A 文章编号: 0454-6296 (2002) 04-0522-09